

Refine Search

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EMAIL	3627
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(L14 AND (EMAIL OR E-MAIL).AB.).USPT.	2

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Search History

DATE: **Tuesday, February 03, 2004** [Printable Copy](#) [Create Case](#)

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<i>DB=USPT; PLUR=YES; OP=ADJ</i>			
<u>L15</u>	L14 and (email or e-mail).ab.	2	<u>L15</u>
<u>L14</u>	L1 and (download\$ with (program\$ or handler\$)).ab.	106	<u>L14</u>
<u>L13</u>	L1 and (download\$ with (program\$ or handler\$)).ab.	106	<u>L13</u>
<u>L12</u>	L1 and (download\$ with (email\$ or e-mail\$) with (program\$ or handler\$)).ab.	0	<u>L12</u>
<u>L11</u>	L1 and (download\$ with (email\$ or e-mail\$) with (program\$ or handler\$))	30	<u>L11</u>

<u>L10</u>	L8 and (download\$ with program\$)	0	<u>L10</u>
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<u>L7</u>	L1 and (detect\$ with priority with (email or e-mail))	2	<u>L7</u>
<u>L6</u>	L4 and ((process\$ or handl\$) with priority)	11	<u>L6</u>
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<u>L4</u>	L1 and (priority\$ adj2 (email or e-mail))	28	<u>L4</u>
<u>L3</u>	L2 and (priority with handler\$)	1	<u>L3</u>
<u>L2</u>	L1 and (priority\$ with (email or e-mail))	95	<u>L2</u>
<u>L1</u>	709/\$.ccls.	14342	<u>L1</u>

END OF SEARCH HISTORY

First Hit Fwd Refs

applied

2/3/04

 Generate Collection

L17: Entry 2 of 3

File: USPT

Oct 9, 2001

DOCUMENT-IDENTIFIER: US 6301710 B1

TITLE: System and method for creating a substitute registry when automatically installing an update program

Abstract Text (1):

A system and method for creating a substitute registry when automatically installing an update program preferably comprises a plurality of computer systems that are connected to a distributed network such as the Internet. Download modules on the computer systems automatically access and download update programs from the distributed network. Install modules then automatically create unique substitute registries that correspond to the downloaded update programs. Finally, the install module loads the update programs onto the computer systems to complete the software installation procedure, in accordance with the present invention.

Current US Cross Reference Classification (3):

709/203

Current US Cross Reference Classification (4):

709/221



US006301710B1

(12) United States Patent
Fujiwara

(10) Patent No.: US 6,301,710 B1
(45) Date of Patent: Oct. 9, 2001

(54) SYSTEM AND METHOD FOR CREATING A SUBSTITUTE REGISTRY WHEN AUTOMATICALLY INSTALLING AN UPDATE PROGRAM

(75) Inventor: Nobuyuki Fujiwara, Kanagawa (JP)

(73) Assignees: Sony Corporation, Tokyo (JP); Sony Electronics Inc., Park Ridge, NJ (US)

(*) Notice: Subject to any disclaimer, the term of this patent is extended or adjusted under 35 U.S.C. 154(b) by 0 days.

(21) Appl. No.: 09/226,426

(22) Filed: Jan. 6, 1999

(51) Int. Cl.⁷ G06F 9/445

(52) U.S. Cl. 717/11; 707/10; 707/203; 709/203; 709/221

(58) Field of Search 717/11; 707/10, 707/200, 203; 709/203, 219, 221, 327

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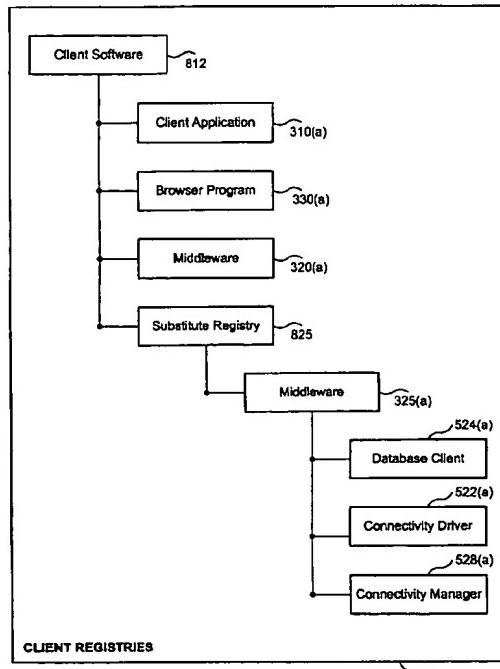
Primary Examiner—Tuan Q. Dam

(74) Attorney, Agent, or Firm—Gregory J. Koerner; Simon & Koerner LLP

(57) ABSTRACT

A system and method for creating a substitute registry when automatically installing an update program preferably comprises a plurality of computer systems that are connected to a distributed network such as the Internet. Download modules on the computer systems automatically access and download update programs from the distributed network. Install modules then automatically create unique substitute registries that correspond to the downloaded update programs. Finally, the install module loads the update programs onto the computer systems to complete the software installation procedure, in accordance with the present invention.

38 Claims, 11 Drawing Sheets



Wplw 2/9/04
First Hit Fwd Refs **Generate Collection**

L8: Entry 1 of 19

File: USPT

Dec 9, 2003

DOCUMENT-IDENTIFIER: US 6662232 B1

TITLE: Dynamic E-mail re-transmitting system having time parametersDetailed Description Text (14):

If no time period messaging tasks have been enabled (as will be discussed further below) or if enabled, initiation of a time period messaging task has not disabled the preprogrammed priority and global messaging tasks (as will also be discussed further below), a determination is then made as to whether the recipient has enabled any "Priority Features" (step 208) in association with the received e-mail message. Priority features are defined as the immediate performance of a chosen enhancement feature when an e-mail message is received from a predetermined sender. For example, a subscriber may program the processor 14 to perform a specific task for all e-mail messages having "Allport" appearing in the user identification (e.g. Allport@work.com). Alternatively, a subscriber may program the processor 14 to perform a specific task for all e-mail messages being sent from the domain name "PBLtd" (e.g., scottbr@PBLtd.com). If priority has not been chosen for the received e-mail message, then it is processed in accordance with the chosen global messaging tasks as described in reference to FIG. 3 (subroutine "A").

Detailed Description Text (15):

If it is determined that priority has been chosen for the received e-mail message, the determination and performance of the chosen priority messaging task(s) are then initiated as discussed with reference to subroutine "P" of FIG. 2a. Preferably, a determination is first made as to whether a pager feature has been enabled (step 210). If no, the facsimile determination is then made (step 218). If the pager feature has been enabled, then at least the message content of the e-mail message is converted to a pager format by the converter 38 (step 212) in the pager sub-system 20. And that pager message is then transmitted to a predetermined pager 34 (preferably in dependence upon a selected telephone number that corresponds to a chosen pager), via pager server 42 (step 214).

Detailed Description Text (16):

If the pager priority task was not enabled for the received e-mail message (step 210), or after initiation of the pager priority messaging tasks (steps 212 and 214), a determination is then made as whether the facsimile priority messaging tasks has been enabled for the received e-mail message (step 218). If no, the telephony determination is then made (step 226). If the facsimile priority messaging task has been enabled, then at least the message content of the e-mail message is converted to a facsimile format by the converter 28 (step 220) in the facsimile sub-system 18. And that facsimile message is then transmitted to a predetermined facsimile device 26 (preferably in dependence upon a selected telephone number that corresponds to a chosen facsimile device), via facsimile server 32 (step 222).

Detailed Description Text (17):

If the facsimile priority messaging task was not enabled for the received e-mail message (step 218), or after initiation of the facsimile priority messaging tasks (steps 220 and 222), a determination is then made as whether the telephony priority messaging tasks has been enabled for the received e-mail message (step 226). If yes, then at least the message content of the e-mail message is converted to an

audio format by the voice recognition converter 44 (step 228) in the telephony subsystem 22. And that audio message is then transmitted to a predetermined telephone location 36 (preferably in dependence upon a selected telephone number that corresponds to a chosen device having the capability to broadcast the audio message such as a conventional telephone or properly configured PC), via telephony server 48 (step 230). A determination is then made as to whether the e-mail priority messaging task has also been chosen for the received e-mail message (step 232).

Detailed Description Text (18):

If the telephony priority messaging task was not enabled for the received e-mail message (step 226) and/or the e-mail priority messaging task has additionally been chosen for the received e-mail message (232), then at least the messaging content of the received e-mail message is re-transmitted to another e-mail address as determined by the subscriber (step 234). The above priority feature then terminates in regards to the present received e-mail, and is again initiated upon receipt of another e-mail message if the predetermined priority criteria has been satisfied. In regards to the present e-mail message, it is then processed in accordance with the pre-programmed global messaging tasks as discussed in reference to subroutine "A" of FIG. 3. It is to be appreciated that if the above-described priority feature is initiated for another received e-mail message, the priority messaging parameters need not be the same, as will be discussed further below.

Detailed Description Text (20):

If the received e-mail message does not satisfy any of the programmed priority messaging parameters, or the priority feature has not been enabled (step 208), the received e-mail message is then processed in accordance with the global messaging tasks as shown in subroutine "A" of FIG. 3. Like the above-described priority messaging tasks, the global messaging tasks are operational to also convert and/or re-transmit the received e-mail message to another location(s), other than the intended location. But unlike the priority messaging tasks of FIG. 2a, the global messaging tasks do not distinguish between received e-mail messages for determining what preprogrammed messaging tasks are to be initiated. For instance, if the facsimile feature has been enabled, then all received e-mail messages are transmitted to a common facsimile location.

Detailed Description Text (38):

If the e-mail time period messaging task (step 932) was not enabled, or after initiation of the e-mail time period messaging task (step 934), a determination is then made as to whether the aforesaid prescribed priority and global messaging have been disabled for the present time period (step 940). If yes, none of the prescribed priority and/or global messaging tasks are initiated in regards to that e-mail message, and the messaging server awaits the receipt of another e-mail message (step 202). If the prescribed priority and/or global messaging tasks have not been disabled (step 940), then the e-mail message is processed in accordance with priority and global messaging tasks, as discussed above, starting at step 208 of FIG. 2.

Current US Original Classification (1):

709/246

Current US Cross Reference Classification (1):

709/206



US006662232B1

(12) **United States Patent**
Nicholls et al.

(10) Patent No.: **US 6,662,232 B1**
(45) Date of Patent: **Dec. 9, 2003**

(54) **DYNAMIC E-MAIL RE-TRANSMITTING SYSTEM HAVING TIME PARAMETERS**

(75) Inventors: **Timothy J. Nicholls, Standon (GB); Robert W. Allport, Harlow (GB); Stephen Kelley, Welwyn Garden City (GB); Christopher J. Capelli, Millwood, NY (US)**

(73) Assignee: **Pitney Bowes Ltd., Harlow (GB)**

(*) Notice: Subject to any disclaimer, the term of this patent is extended or adjusted under 35 U.S.C. 154(b) by 0 days.

(21) Appl. No.: **09/222,192**

(22) Filed: **Dec. 29, 1998**

(51) Int. Cl.⁷ **G06F 15/120**

(52) U.S. Cl. **709/246; 709/206**

(58) Field of Search **709/206, 207, 709/246; 455/26.1; 704/270.1; 370/466, 412; 379/67.1, 88.22**

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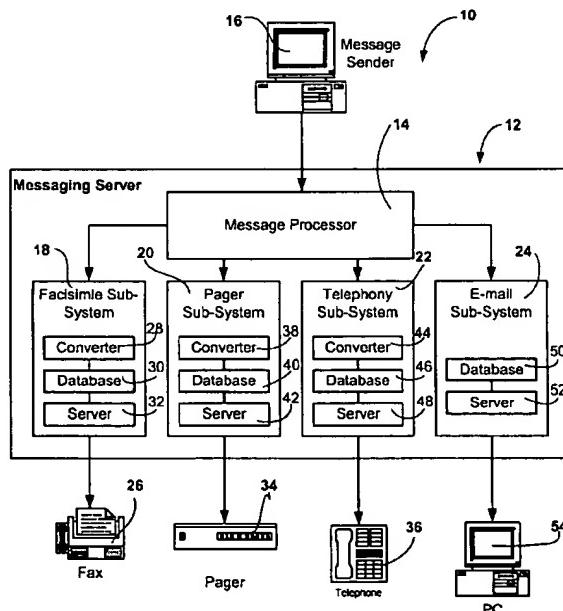
Primary Examiner—Le Hien Luu

(74) Attorney, Agent, or Firm—Christopher J. Capelli; Angelo N. Chaclas; Charles R. Malandra, Jr.

(57) **ABSTRACT**

The invention relates to a system and method for re-transmitting an e-mail message transmitted from a sender to a recipient based upon predetermined criteria. The method performing the steps of prescribing at least one time period for performing messaging tasks and defining messaging tasks to be initiated for the e-mail message during the at least one prescribed time period. When an e-mail message is received in a recipient's e-mail account a determination is made as to whether if the e-mail message was received within the at least one prescribed time period. And re-transmitting the e-mail message in accordance with the defined messaging tasks if the e-mail message was determined to be received within the prescribed time period.

10 Claims, 11 Drawing Sheets



Hit List

2/3/04

Clear**Generate Collection****Print****Fwd Refs****Bkwd Refs****Generate OACS****Search Results - Record(s) 1 through 10 of 11 returned.**

1. Document ID: US 6622160 B1

L6: Entry 1 of 11

File: USPT

Sep 16, 2003

DOCUMENT-IDENTIFIER: US 6622160 B1

TITLE: Methods for routing items for communications based on a measure of criticality

Text - keyword
intelligent handle

Detailed Description Text (15):

In this section of the detailed description, the generation of a priority for a text such as an email, according to one embodiment of the invention, is described. The generation of priorities for texts as described can then be used in methods, systems, and computer-readable media (as well as other embodiments) of the invention as are presented in other sections of the detailed description. The description in this section is provided in conjunction with FIG. 2 and FIG. 3, the former which is a diagram showing explicit and implicit training of a text classifier, according to an embodiment of the invention, and the latter which is a diagram showing how a priority for a text is generated by input to a text classifier, according to an embodiment of the invention. The description is also provided in conjunction with FIGS. 4(a) and 4(b), which are diagrams of different schema according to which the priority of a text can be classified, and in conjunction with FIGS. 5(a) and 5(b), which are graphs showing different cost functions that may be applicable depending on text type.

Detailed Description Text (42):

The invention is not limited to the definition of priority as this term is used by the text classifier to assign such priority to a text such as an email message. In one embodiment, however, priority is defined in terms of a loss function. More specifically, priority is defined in terms of the expected cost in lost opportunities per time delayed in reviewing the text after it has been received--that is, the expected lost or cost that will result for delayed processing of the text. This loss function can further vary according to the type of text received.

Detailed Description Text (74):

The routing mechanism 970, as shown in FIG. 13, receives a prioritized text, and based on a routing criteria, is able to reply to the sender of the text (in the case where the text is an email message), in which case the mechanism is a replying mechanism. Also based on the routing criteria, the mechanism 970 is able to forward the text, for example, to a different email address, in which case the mechanism is a forwarding mechanism. The former may be useful when the user wishes to indicate to the sender of a message that the user is not present, and thus may provide the sender with contact information as to how to reach the user. The latter may be useful when the user has email access to a different email address, such as a web-based email address as known in the art (examples include Microsoft Corp.'s HotMail at <http://www.hotmail.com>), such that the user wishes to be kept informed of high priority emails at this alternative address. The invention is not limited as to a

particular routing criteria, although in one embodiment, the routing criteria is as described in the next section of the detailed description.

Detailed Description Text (77):

Referring first to FIG. 14(a), two tabs are selectable, a forward tab 990 and a custom reply tab 992. In FIG. 14(a), however, the forward tab 990 is specifically selected, such that routing criteria with respect to forwarding a prioritized text such as an email message are shown. The user is able to specify an alternative email address to which high-priority emails are forwarded. More specifically, emails are forwarded to the address if the user has been away from the computer more than a predetermined amount of time, and a particular email to be forwarded has a priority greater than a predetermined threshold. For example, as shown in FIG. 14(a), the predetermined threshold is a priority of 95, and the predetermined amount of time is 600 minutes. Thus, if it is determined that the priority of an email message is greater than 95, and that the user has been away from the computer for more than 600 minutes, then the email will be forwarded to the specified email address.

Detailed Description Text (78):

Referring next to FIG. 14(b), the same two selectable tabs are shown, the forward tab 990 and the custom reply tab 992. However, in FIG. 14(b), the custom reply tab 992 is specifically selected, such that routing criteria with respect to replying to the sender of a prioritized text such as an email message are shown. The user is able to specify a predetermined message that will be sent in the reply to the sender of the high-priority email message. Emails are replied to if the user has been away from the computer more than a predetermined amount of time, and a particular email to be replied to has a priority greater than a predetermined threshold. For example, as shown in FIG. 14(b), the predetermined threshold is a priority of 95, and the predetermined amount of time is 120 minutes. Thus, if it is determined that the priority of an email message is greater than 95, and that the user has been away from the computer for more than 120 minutes, then the sender of the email will be replied to with the specified predetermined message.

Current US Original Classification (1):

709/206

Current US Cross Reference Classification (1):

709/207

[Full](#) | [Title](#) | [Citation](#) | [Front](#) | [Review](#) | [Classification](#) | [Date](#) | [Reference](#) | [Searcher](#) | [Attachment](#) | [Claims](#) | [KWMC](#) | [Drawn De](#)

2. Document ID: US 6598034 B1

L6: Entry 2 of 11

File: USPT

Jul 22, 2003

DOCUMENT-IDENTIFIER: US 6598034 B1

TITLE: Rule based IP data processing

Detailed Description Text (16):

Referring now to FIG. 8, a flowchart 800 is shown of certain representative steps which might be used to implement at least one aspect of the present invention. According to this chart, all such steps would be performed as part of an initial lookup step which utilizes all information to route and classify any packet within the flow. In step 802, the rules--for use by the JIT compiler (or otherwise) are formulated and stored for access by the JIT compiler device. In step 804, the IP

flow coming into the router is parsed. Parsing technology is well known and the present invention might employ any of these techniques. As mentioned above, the parsing would be applied across the entire IP flow, and encapsulated data patterns would also be separated for analysis according to the formulated rules. In step 806, certain patterns are detected within the IP flow. The patterns to be detected are determined essentially by the formulated rules. A certain rule will present a pattern of importance to be detected and acted upon within the IP flow. In step 808, the rules are applied according to the corresponding patterns. For instance, a certain bit pattern (e.g. the Application field set to indicate "low priority email") might then carry a rule for routing the associated packet via a lower priority transfer protocol. In this step, the all data packets in an IP flow are classified according all the information available, i.e. rules, ports, etc. In step 810, a process action is performed on the packets according to the set of rules. The packets can be modified to reflect the routing decisions applied. The steps 804 through 810 can be performed in (at least) a single step 812 without having to again re-classify the data packet.

Current US Cross Reference Classification (2):709/223Current US Cross Reference Classification (3):709/224

CLAIMS:

19. A method for applying rules to the processing of data packets within an IP flow over a network, the method comprising: formulating at least one rule for application to the data packets of an IP flow; receiving an IP flow from a source; parsing the IP flow to detect data patterns within the data stream; applying the at least one formulated rule to classify all the data packets in at least one step before processing the data packets, the at least one rule being used to establish data traffic types, the data traffic types including assigned priorities.

Full	Title	Citation	Front	Review	Classification	Date	Reference	Sequences	Attachments	Claims	KWIC	Drawn D
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 3. Document ID: US 6560648 B1

L6: Entry 3 of 11

File: USPT

May 6, 2003

DOCUMENT-IDENTIFIER: US 6560648 B1

TITLE: Method and apparatus for network latency performance measurement

Brief Summary Text (11):

Secondly, the PING command, as normally used today, is not a long or variable length message. The PING command typically issues a 56 byte token message, which is a very small packet for a network such as the Internet. For example, typical e-mail packets include thousands of bytes per packet. Video packets tend to be even bigger yet. So, the fact that a small packet can traverse the network in a timely fashion is not indicative of the fact that a large packet could also traverse the network in a timely fashion. In truth it is counter-indicative. Most routers have different queues for different kinds of messages, based on size and priority. The token messages from PING commands are high priority, small size messages and they tend to get handled much quicker through the routers. The larger message packets and the

lower priority message packets tend to get handled last.

Detailed Description Text (32):

Additionally, the Extended PING command 300 can store data in the DATA field 392, which is a variable length field, to set the size of a message packet for the Extended ECHO message that is representative of the message packet size for a particular application requiring use of the network communication facilities. In this way, an application can test the network latency for message packets that are of size relevant to the specific application requirements. This is a more realistic measurement of network performance for many applications than simply sending a small token message from the PING command. The small token message is usually handled in a higher priority than other larger message packets in the network. Use of such a small token message actually may provide irrelevant and false network performance information that can not be relied upon by a user of the network other than possibly to verify a connection is established between Host computer systems on the network. Therefore, by using the variable size packet of the ECHO message, and the ECHO reply message, a more relevant measurement of network latency performance is obtained by the communication system 100 in accordance with the present invention.

Detailed Description Text (53):

In another example, e-mail messages are stored in a queue of e-mails that need to go out. As the system gets congested, maybe it only sends out the high priority e-mail messages first and holds the other lower priority messages to try to get those across the network, using some type of priority scheme. As another example, e-mail messages that have large attachments may be held until the system sends the e-mail messages without any attachments--the smaller messages.

Detailed Description Text (65):

The higher level application, at step 608, receives that message and by its own processing rules it returns the data contents back to the ICMP layer, after processing it according to its rules. For example, it may process this message immediately, with a high priority message or it may put a low-priority message in the in-basket (queue) and when the application works its way down to the message it will process it. Therefore, the time delay is either more or less indicative of the actual workload of the application.

Current US Original Classification (1):

709/224

Current US Cross Reference Classification (1):

709/223

Full	Title	Citation	Front	Review	Classification	Date	Reference	Sequences	Attachments	Claims	KM/C	Drawn De
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4. Document ID: US 6499055 B1

L6: Entry 4 of 11

File: USPT

Dec 24, 2002

DOCUMENT-IDENTIFIER: US 6499055 B1

** See image for Certificate of Correction **

TITLE: Communication apparatus and method

Detailed Description Text (21):

In addition, priority of e-mail may be set in advance, and a mail of high priority

h e b b g e e e f e c c e f b e

or emergency may be stored and forwarded by making a dial-up connection. Thus, it is possible to prevent such mail from being delayed.

Current US Original Classification (1):

709/206

CLAIMS:

1. A communication apparatus for making a dial-up connection to the Internet via a network to provide a client with e-mail and to enable viewing of World-Wide Web pages on the Internet, said apparatus comprising: interface means for connecting a plurality of clients; dial-up connection means for making a dial-up connection to the Internet; detection means for detecting a priority of e-mail; and e-mail processing means for, in a case where the priority of the e-mail is a high priority, making a dial-up connection to transmit the e-mail immediately, and, in a case where the priority of the e-mail is not a high priority, storing the e-mail until a dial-up connection is made by said dial-up connection means, not for transmitting the e-mail, and transmitting the stored e-mail and receiving e-mail when a dial-up connection has been made.
2. The apparatus according to claim 1, wherein said e-mail processing means transmits the e-mail that is not of a high priority by taking advantage of a dial-up connection made to the Internet by said dial-up connection means for a purpose of viewing a World-Wide Web page.
5. A communication method using a communication apparatus for making a dial-up connection to the Internet via a network to provide a client with e-mail and to enable viewing of World-Wide Web pages on the Internet, said method comprising the steps of: detecting a priority of e-mail; in a case where the priority of the e-mail is a high priority, making a dial-up connection and transmitting the e-mail immediately, and, in a case where the priority of the e-mail is not a high priority, transmitting the e-mail to a mail server on the Internet in a case where the e-mail is waiting to be transmitted from the client when a dial-up connection has been made to the Internet, not for transmitting the e-mail; and in a case where a priority of e-mail is a high priority, making a dial-up connection to receive the e-mail immediately, and forwarding the received e-mail to the client, and, in a case where the priority of the e-mail is not a high priority, receiving the e-mail from a mail server on the Internet when a dial-up connection has been made to the Internet, not for receiving the e-mail, and forwarding the received e-mail to the client.
9. A computer-readable storage medium storing a program for implementing a communication processing method, the program comprising: code for a detection step of detecting a priority of e-mail; code of a transmission step of, in a case where the priority of the e-mail is a high priority, making a dial-up connection and transmitting the e-mail immediately, and, in a case where the priority of the e-mail is not a high priority, transmitting the e-mail to a mail server on the Internet in a case where the e-mail is waiting to be transmitted from a client when a dial-up connection has been made to the Internet via a network, not for transmitting the e-mail; and code of a reception step of, in a case where a priority of e-mail is a high priority, making a dial-up connection to receive the e-mail immediately, and forwarding the received e-mail to the client, and, in a case where the priority of the e-mail is not a high priority, receiving the e-mail from a mail server on the Internet when a dial-up connection has been made to the Internet, not for receiving e-mail, and forwarding the received e-mail to the client.

5. Document ID: US 6442593 B1

L6: Entry 5 of 11

File: USPT

Aug 27, 2002

DOCUMENT-IDENTIFIER: US 6442593 B1

TITLE: Methods and apparatus for transmitting prioritized electronic mail messages

Brief Summary Text (20):

Consistent with the invention, another method for providing prioritized delivery of an email message comprises generating an email message at a sending account on an interactive receiver and assigning a priority level to the email message. The method includes transmitting both the email message and a priority tag associated with the message from the interactive receiver to a mail server. The method also includes determining a time frame for delivery of the email message based on a priority level contained within the email message, selecting a data path that has sufficient bandwidth to ensure delivery of the email message within the determined time frame, and providing the email message to the receiving account within the specified time frame.

Drawing Description Text (10):

FIG. 7 is a flow diagram, consistent with the claimed invention, of the steps performed to employ a priority delivery email system.

Detailed Description Text (24):

FIG. 7 is a flow diagram, consistent with the claimed invention, of stages performed to employ one prioritized email message system that is consistent with the invention. After the process begins, a user at the sending account composes an email message on interactive receiver 300 (stage 705). The user may compose such an email message by using a conventional keyboard connected to either external interface 425 or remote input 450. After composing the message, the user assigns a priority level to the message or specifies a time frame within which the message is to be delivered (stage 710), and a priority tag associated with the message is generated (stage 712). The priority tag preferably consists of one or more data packets that contain some indication of a delivery time frame (i.e., the time by which the email message is to be provided to the receiving account) and an identification code that associates the priority tag with the email message. Although the priority tag is preferably separate from the email message, other forms of tagging priority may be used consistent with the invention, such as including the priority tag with the email message.

Detailed Description Text (27):

Server 340 then selects procedures to ensure delivery of the email message within the determined time frame (stage 735). If the email message is of the highest priority (or shortest time frame), server 340 preferably processes the email message immediately and transmits the email message to the receiving account using the fastest data path between server 340 and the receiving account. If the email message is of a lower priority (or longer time frame), server 340 coordinates timely delivery based on numerous factors, including the following: the priority level of the message, the types of data paths between interactive receiver 300 and server 340, the activity level at server 340, or the types of data paths between server 340 and the receiving accounts.

Current US Original Classification (1):

709/206

Current US Cross Reference Classification (1):
709/207

CLAIMS:

1. A method for providing prioritized delivery of an email message, comprising: generating an email message at a sending account on an interactive receiver; assigning a priority level to the email message; transmitting a priority tag from the interactive receiver to a mail server; transmitting the email message from the interactive receiver to the mail server; determining a time frame for delivery of the email message based on a priority level contained within the email message; selecting a data path that has sufficient bandwidth to ensure delivery of the email message within the determined time frame; and providing the email message to the receiving account within the specified time frame.
2. An apparatus for providing prioritized delivery of an email message, comprising: at least one memory having program instructions, and at least one processor configured to execute the program instructions to perform the operations of: generating an email message at a sending account on an interactive receiver; assigning a priority level to the email message; transmitting a priority tag from the interactive receiver to a mail server; transmitting the email message from the interactive receiver to the mail server; determining a time frame for delivery of the email message based on a priority level contained within the email message; selecting a data path that has sufficient bandwidth to ensure delivery of the email message within the determined time frame; and providing the email message to the receiving account within the specified time frame.
3. A computer-readable medium containing instructions for controlling a computer system to perform a method for providing prioritized delivery of an email message, the method comprising: generating an email message at a sending account on an interactive receiver; assigning a priority level to the email message; transmitting a priority tag from the interactive receiver to a mail server; transmitting the email message from the interactive receiver to the mail server; determining a time frame for delivery of the email message based on a priority level contained within the email message; selecting a data path that has sufficient bandwidth to ensure delivery of the email message within the determined time frame; and providing the email message to the receiving account within the specified time frame.

[Full](#) | [Title](#) | [Citation](#) | [Front](#) | [Review](#) | [Classification](#) | [Date](#) | [Reference](#) | [Sequences](#) | [Attachments](#) | [Claims](#) | [KIDC](#) | [Drawn D](#)

 6. Document ID: US 6424995 B1

L6: Entry 6 of 11

File: USPT

Jul 23, 2002

DOCUMENT-IDENTIFIER: US 6424995 B1

** See image for Certificate of Correction **

TITLE: Method for displaying information contained in an electronic message

Brief Summary Text (7):

Current e-mail systems provide users with a few simple ways to organize and manage their e-mail inbox. For example, one mechanism for identifying and sorting important messages is for the sender of the message to set a priority level that the recipient will receive with the message. The sender may provide information about the e-mail message in a "subject" line. For example, the sender may also set the priority to "urgent" for an e-mail message or type "urgent" in the "Subject"

field. However, these mechanisms for setting priorities can be somewhat ineffective because they do not specifically identify what action the recipient needs to take. Furthermore, if the recipient does not respond immediately, the user may simply forget to take the appropriate action at a later time.

Detailed Description Text (69):

The processes carried out by the infobar code are referred to generally as property promotion, external notification, and priority ranking. Property promotion utilizes data contained in the message properties that constitute the message item. External notification employs data that is external to the message item. Priority ranking applies predetermined priorities to the resulting information items in order to allow the most important data to be displayed at the top of the list in the infobar. If the number of items exceeds a predetermined number, only the highest priority items will be displayed in the infobar. Those skilled in the art will also appreciate that if the infobar code does not identify any data for the infobar, the infobar will not be displayed at all.

Current US Original Classification (1):

709/206

Current US Cross Reference Classification (1):

709/207

Current US Cross Reference Classification (2):

709/227

[Full](#) | [Title](#) | [Citation](#) | [Front](#) | [Review](#) | [Classification](#) | [Date](#) | [Reference](#) | [Sequences](#) | [Attachments](#) | [Claims](#) | [KDDC](#) | [Drawn D](#)

7. Document ID: US 6351764 B1

L6: Entry 7 of 11

File: USPT

Feb 26, 2002

DOCUMENT-IDENTIFIER: US 6351764 B1

** See image for Certificate of Correction **

TITLE: System and method for prioritizing communications messages

Detailed Description Text (27):

The priority codes designated in the directory of addresses relates to each of the correspondents for incoming e-mail. Once assigned, any incoming mail is sorted through the database and based on a mail-box is assigned the respective priority code. If there is not a "match", i.e., the e-mail address is not in the directory, the e-mail is sent to the junk mailbox via the respective priority code for e-mail having addresses not contained in the directory. Alternatively, the e-mail recipient can reject all unsolicited (i.e., no corresponding address in the directory) mail unless it is coded as in System 2 below.

Detailed Description Text (50):

The user could then click "C", for example, and assign a one time priority to the anticipated reply. The user's computer then generates the PAC from a pre-assigned level chosen. This particular PAC assigned for the one time priority is then discarded to prevent future assignment and any incoming reply E-mail with this PAC is assigned on the first incoming receipt only, to the desired priority mailbox. If the PAC is ever used again by the particular recipient making the reply, the incoming reply message will nonetheless be sent to a low priority box or, if rejected as not allowed because of the particular PAC, can be assigned to a

particular mailbox or otherwise handled.

Current US Original Classification (1):
709/207

Current US Cross Reference Classification (1):
709/206

[Full](#) | [Title](#) | [Citation](#) | [Front](#) | [Review](#) | [Classification](#) | [Date](#) | [Reference](#) | [Sequences](#) | [Attachments](#) | [Claims](#) | [KINIC](#) | [Drawn D](#)

8. Document ID: US 6226670 B1

L6: Entry 8 of 11

File: USPT

May 1, 2001

DOCUMENT-IDENTIFIER: US 6226670 B1

TITLE: E-mail distribution system

Brief Summary Text (38):

After the server has received the mail acquisition demand, the mail acquisition demand receptor analyses the mail acquisition demand. When the group identifier and a key word are set in the mail acquisition demand, the candidate mail extractor extracts an E-mail including contents which are consistent with the key word from the group mail spools 5 as a candidate mail. In addition, the priority mail extractor analyses the extracted candidate mails in respect of information such as an emergency degree and a sender address and of an elapsed time after the E-mails have been accumulated, and extracts an E-mail to be processed with top priority.

Brief Summary Text (39):

Moreover, when only the group identifier is set therein, the priority mail extractor analyses the contents of the E-mails and extracts an E-mail to be processed with top priority from the group mail spools 5. The mail distribution controller transmits the extracted E-mails a, b, c to the clients 22-3, 22-1, 22-2, respectively in FIG. 1, which are received by the mail receiver in each client.

Drawing Description Text (11):

FIG. 10 is a diagram showing a calculation procedure of a priority level of an E-mail extracted by a priority mail extractor in an E-mail distribution system according to the present invention;

Detailed Description Text (19):

When the log-in process is successful and the group identifier GID is not set in the mail acquisition demand MD1, an E-mail is extracted from the personal mail spools 4 corresponding to the user identifier UID (at step S24, S25), and then the control is taken over by the mail distribution controller 9. Moreover, only when being set, the group identifier GID is extracted (at step S24, S26, S27), and then the process is taken over by the priority mail extractor 8. When both of the group identifier GID and the key word KW are set, the group identifier GID and the key word KW are extracted (at step S24, S26, S28), and then the process is taken over by the candidate mail extractor 7.

Detailed Description Text (22):

If there is no E-mail which includes the key word KW, "no candidate mail" is set in the data which is returned back to the client 22 (at step S33), and then the process is taken over by the mail distribution controller 9. Moreover, if there is an E-mail which includes the key word KW, the E-mail EM2 including the key word KW

is extracted (at step S34), and then the process is taken over by the priority mail extractor 8.

Detailed Description Text (24):

When the candidate mail is extracted, the priority mail extractor 8 in the server 21 extracts an E-mail with the first priority from the E-mails extracted by the candidate mail extractor 7(at step S41, S42). Moreover, when the candidate mail is not extracted, an E-mail EM2 with the first priority is extracted from the group E-mail spools 5 corresponding to the group identifier GID (at step S41, S43). In any case, the extracted E-mail EM2 is deleted from the group mail spools 5 (at step S44), and then the process is taken over by the mail distribution controller 9.

Detailed Description Text (25):

The process by which the priority level of an E-mail is calculated in the priority mail extractor 8 will now be described referring to FIGS. 11-13. FIG. 10 illustrates a calculation chart of an E-mail priority level, FIG. 11 a chart of the priority level data corresponding to a question type, FIG. 12 a chart of the priority level data corresponding to a sender, and FIG. 13 illustrates a chart of the priority level data corresponding to an elapsed time, respectively.

Detailed Description Text (27):

Next, an elapsed time after the E-mail was received is calculated, and a priority level (c) (see FIG. 10) corresponding to the elapsed time of the priority level data is extracted (see FIG. 13). Finally, the priority levels (a), (b), and (c) are added to assume the priority level of the E-mail (see FIG. 10).

Current US Original Classification (1):

709/207

Current US Cross Reference Classification (3):

709/201

Current US Cross Reference Classification (4):

709/206

Current US Cross Reference Classification (5):

709/238

Current US Cross Reference Classification (6):

709/240

[Full](#) | [Title](#) | [Citation](#) | [Front](#) | [Review](#) | [Classification](#) | [Date](#) | [Reference](#) | [Responses](#) | [Attachments](#) | [Claims](#) | [KWMC](#) | [Drawn D](#)

9. Document ID: US 6073142 A

L6: Entry 9 of 11

File: USPT

Jun 6, 2000

DOCUMENT-IDENTIFIER: US 6073142 A

TITLE: Automated post office based rule analysis of e-mail messages and other data objects for controlled distribution in network environments

Detailed Description Text (105):

This process identifies the highest priority action or actions to be executed. Lower priority actions will not be executed. For example, if the highest priority action is to delete the message, then the lower priority release action will not be

executed. Similarly, if the highest priority action is to gate the message, then there is no reason to copy the message. Accordingly, the distribution engine 230 deletes 1310 all actions with lower priority than the current priority level.

Current US Cross Reference Classification (1):
709/204

CLAIMS:

13. The post office of claim 1, wherein each action has a priority, and the distribution engine executes a highest priority action for each e-mail message.

[Full](#) | [Title](#) | [Citation](#) | [Front](#) | [Review](#) | [Classification](#) | [Date](#) | [Reference](#) | [Sequences](#) | [Attachments](#) | [Claims](#) | [KIN/C](#) | [Drawn De](#)

10. Document ID: US 5974465 A

L6: Entry 10 of 11

File: USPT

Oct 26, 1999

DOCUMENT-IDENTIFIER: US 5974465 A

TITLE: Method and apparatus for prioritizing the enqueueing of outbound data packets in a network device

Brief Summary Text (10):

The present invention pertains to an apparatus and method for a switching device coupled to a computer network to enqueue data packets for transmission over the computer network according to a pre-determined priority scheme. Initially, the switching device is configured to define a hierarchy of priority levels. A number of queue buffers are reserved for each of the priority levels. Furthermore, each application program is assigned a particular priority, depending its relative importance and time-criticalness. When the application program generates an outbound packet, that packet is assigned a corresponding priority. The outbound packet is not automatically stored in the queue. Instead, the central processing unit checks the number of buffers in the queue which are currently available and compares it with the sum of the buffers which were reserved for all priority levels which are higher than the priority of the outbound packet. If the number of available buffers exceeds the sum of the buffers reserved for the priority levels higher than that of the packet, then the packet is stored in the queue. Otherwise, the packet is discarded. Thereby, the present invention allows a subsequent higher priority packet to be preferentially enqueued in place of a lower priority packet which was earlier received. Essentially, when the queue is nearly full, less important packets are discarded, and only those packets with the requisite degree of priority are stored in the queue buffers which were reserved.

Brief Summary Text (11):

In the currently preferred embodiment, a shared memory is segregated into a number of different areas. Each area comprises a different queue. The multiple queues correspond to multiple interface devices. An outbound packet is initially stored in a temporary staging area. The central processing unit then examines its priority to determine whether it meets the criteria for being stored in the queue. If the packet qualifies to be stored in the queue, its address is examined to determine which of the multiple queues that it should be stored into. Once the packet has been forwarded to the appropriate interface device and transmitted, its corresponding buffer is cleared and made available for another buffer by a

dispatcher program. The process then repeats.

Detailed Description Text (4):

FIG. 2 shows an exemplary block diagram of the software that can be used to create, configure, and load one or more logical queues according to pre-determined packet priorities. One or more PC's 101-103 are coupled to network device 104.

Alternatively, network device 104 may be a standalone device. Network device 104 can be either another personal computer, server, multiplexer, router, switching hub, etc. The PC's 101-103 have application programs running which forward and receive packets to/from switch 104. In addition, there may be packets which are being generated internally by one of the application programs 205-207 running on switch 104. Whenever an outbound packet is to be transmitted, prioritization software module 208 examines that packet to determine whether it should be stored in queue 209. The prioritization software module 208 makes its determination based upon a particular configuration scheme. It is the function of software module 208 to initially configure the prioritization scheme. The configuration process entails specifying a number of different priority levels. For each of these priority levels, the software module 208 specifies a number of buffers within queue 209 which are to be reserved for that particular priority level. A buffer is a discrete unit of memory which is used to store one packet. The size of the packets and buffers can vary, depending on the hardware and software considerations.

Detailed Description Text (6):

For every packet to be transmitted, based on its priority and current buffer usage, the packet may be queued and then transmitted if the number of buffers left is greater than the sum of those configured for all higher priorities. Otherwise, the packet will be discarded, and a notification is sent. For example, assume that the highest priority is 0 and that two buffers were reserved for this priority level; the next lower priority level is 1 and three buffers were reserved for priority 1; and an even lower priority level 2 has four buffers reserved. If an outbound packet having a priority 2 were generated, it would be queued only if the current available buffers were greater than five--two for priority 0 plus three for priority 1. In other words, there must be at least five free buffers available in queue 209 before any priority 2 packet can be enqueued for transmission. Thereby, there will be at least five buffers available in case subsequent packets having a higher priority need to be transmitted. Likewise, there must be at least two free buffers before a priority 1 packet can be stored. Thus, the buffers of queue 209 will not be completely filled with low priority packets. Consequently, a higher priority packet can be enqueued immediately for transmission. For instance, given the sample applications described above, the network administration application would be assigned a priority 0; the web browser would be assigned a priority 2; and the e-mail application would be assigned a priority 3. If there are at least nine buffers that are currently available, an e-mail packet would be stored in queue 209 for eventual transmission. Otherwise, the e-mail packet would be discarded. The e-mail application and/or prioritization software module 208 would be notified of this event. The e-mail application could then attempt to resend that packet at a later time. Now, if a priority 0 packet containing critical error information from the network administration application is received, it will be enqueued because it has the requisite priority level and can be stored in one of the available buffers that was reserved for this type of occurrence. The error packet will be stored in queue 209 instead of the email packet, even though the e-mail packet was generated before the error packet. Hence, with the present invention, a later packet having a higher priority will get preferentially stored in the queue in favor of an earlier packet having a lower priority.

Current US Original Classification (1):

709/234

Current US Cross Reference Classification (2):

709/235

h e b b g e e e f e c c e f b e

Current US Cross Reference Classification (3):709/240

CLAIMS:

8. A network device capable of being coupled to a computer network, wherein packets of data are queued before being transmitted over the computer network according to a priority scheme, the network device comprising:

a bus;

a memory coupled to the bus for storing queued packets;

a processor coupled to the bus which assigns a priority hierarchy comprised of a plurality of priority levels for a plurality of application programs, the central processing unit also specifying an amount of memory which is to be reserved for each one of the plurality of priority levels, wherein a packet is enqueued in the memory only if an amount of memory which is currently available is greater than a sum of all memory which is reserved for priority levels which are higher than the priority of the packet;

an interface device coupled to the processor for transmitting enqueued packets in the memory over the computer network.

9. The apparatus of claim 8, wherein the processor assigns a priority to the packet according to which application program had generated the packet.

[Full](#) | [Title](#) | [Citation](#) | [Front](#) | [Review](#) | [Classification](#) | [Date](#) | [Reference](#) | [Sequences](#) | [Attachments](#) | [Claims](#) | [KINIC](#) | [Drawn D](#)

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Term	Documents
PRIORITY	133824
PRIORITIES	10567
PRIORITYS	0
PROCESS\$	0
PROCESS	1584848
PROCESSA	21
PROCESSABILITY	1
PROCESSAB	1
PROCESSABILITY	1
PROCESSABC	1
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